

REMARKS

Claims 25-28 are pending. Claim 25 has been amended for clarity. Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

I. REJECTION OF CLAIMS 25-28 UNDER 35 U.S.C. § 103(a)

Claims 25-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,596,524 (Lin et al.) in view of U.S. Patent No. 5,369,295 (Vinal). Withdrawal of the rejection is respectfully requested for at least the following reason.

*Claim 25 includes a **deep** conductive region formed to a depth **substantially below** only **portions** of the first and second conductive regions, which is not taught by the cited references.*

To establish a *prima facie* case of obviousness, the cited references must teach or suggest every claim limitation. The Office Action concedes that Lin et al. do not teach a deep conductive region formed to a depth below the first and second conductive regions and relies on Vinal for such teachings. However, Vinal fails to cure the deficiencies of Lin et al.

Vinal discloses a fast Fermi FET structure (Fig. 5) having a Fermi Tub, which has the same conductivity type as the drain and source diffusions. (Column 8, lines 4-8). The Fermi Tub has a depth equal to the sum of two factors, the Fermi Channel depth and depletion depths, which have specific design criteria. (Column 8, lines 8-12). The depths of the Fermi Tub can be greater than the Fermi channel depth, but not the sum of the channel depth and the depletion depth. In contrast, the deep conductive region of claim 25 is defined and described in Fig. 6 and page 16, lines 1-21, as being substantially below the depth of the conductive regions and not limited to merely the sum of the depletion depth and the channel depth. Thus, although Vinal discloses a Fermi Tub that is formed to a depth slightly below N⁺ regions, it does not disclose forming a deep conductive region or a deep conductive region substantially below the first and second conductive regions, as in claim 25. For example, Fig. 6 shows the

deep conductive region 68 as being at least about 3 times deeper than the first and second conductive regions 12, 14.

Additionally, the deep conductive region of claim 25 is formed below only portions of the first and second conductive regions. (see, Fig. 6). In contrast, the Tub of Vinal is formed completely below and around the N⁺ regions. (Fig. 5 of Vinal).

As shown above, Lin et al. and Vinal, alone or in combination, fail to teach each and every element of claim 25. Claims 26-28 depend from claim 25 and, therefore are not taught by Lin et al. and Vinal, alone or in combination, for at least the above reasons. Thus, a *prima facie* case of obviousness has not been established for claims 25-28 and withdrawal of this rejection is respectfully requested.

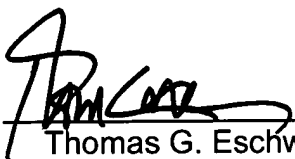
II. CONCLUSION

For at least the above reasons, the claims currently under consideration are believed to be in condition for allowance.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 20-0668, TI-20142.2.

Respectfully submitted,
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CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Assistant Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: May 12, 2006


Christine Gillroy